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ABSTRACT

A total of 61 Belgian boys and girls who were 5 and 7 years old participated in an experiment which aimed at enhancing their giving and helping behavior. Treatment basically involved the induction of empathy. Children in the experimental group were told stories by their teacher in which the hero meets secondary characters who are in need and acts prosocially toward them. The stories stress the consequences of the hero's prosocial action, the feelings of relief on the part of the secondary characters, and also the hero's self-rewarding feelings. Children were asked to discuss the stories. Those in the control group were told stories without a prosocial content, which they discussed. Outcomes were assessed by a behavioral measure of children's helping and also one unweighted and two weighted measures of children's giving. Children's prosocial moral reasoning was also assessed. Findings from the helping measure and one of the weighted measures indicated that the treatment was effective for the 7-year-olds, but not for the 5-year-olds. Reasons children gave to justify their helping and giving exhibited a developmental pattern that ranged from a self-oriented, hedonistic perspective, to a norm-oriented perspective, and finally to an other-oriented, needs-focused perspective. The older children gave more advanced reasons for giving than did the younger, but did not do the same for helping. Prosocial moral reasoning was not influenced by treatment. (RH)

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Running title : ENHANCING PROSOCIAL DEVELOPMENT

ENHANCING CHILDREN'S PROSOCIAL DEVELOPMENT BY TEACHER IMPLEMENTED STORY TELLING AND DISCUSSION

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Abstract

Sixty-one 5- and 7- year-old boys and girls took part in an experiment which aimed at enhancing their giving and helping behaviour. The essential treatment component was empathy induction. Children in the experimental group were told stories by their teacher in which the hero meets secondary characters who are in need and acts prosocially towards them. The story stresses the consequences of the hero's prosocial action, the feelings of relief on the part of the secondary characters and also the hero's self-rewarding feelings. Children were then asked to discuss the stories. Children in the control group were told stories without a prosocial content and had to discuss them. Treatment outcomes were assessed by a behavioural measure of children's helping and also an unweighted and two weighted measures of children's giving. The latter took into account the children's motives for giving. Children's prosocial moral reasoning was also assessed. For the 7-year-old children, but not for the 5-year olds, the treatment was effective where the helping measure was concerned and where one of the weighted giving measures was concerned. The reasons children gave to justify their helping and giving are conceptualized according to a developmental pattern from a self-oriented, hedonistic perspective, a norm-oriented perspective and finally to another needs-oriented perspective. The 7-year olds gave more advanced reasons than the 5-year olds for giving, but not for helping. Prosocial moral reasoning was not influenced by the treatment.

Results are discussed with reference to children's cognitive development and to the situational conditions in which the treatment has been implemented. Finally, diverse educational implications are outlined.

Questionnaires about parents' story telling and discussing techniques have revealed that parents tell few stories to their children and only rarely discuss these stories with them (Crivisqui-Linares & Vandenplas-Holper, 1983). Story telling and discussing may however be a means of enhancing children's prosocial development. Indeed, a previous experiment (Vandenplas-Holper, Crivisqui-Linares, Leyens & Ghysselinckx-Janssen, 1987), showed that, in contrast with stories told and discussed in control groups, those told and discussed in experimental groups of four children had enhanced children's giving but not their helping behaviour. The aim of the experiment to be presented was to generalize the story telling and discussing to the classroom setting. The study focused in particular on designing new measures of children's prosocial development to assess the outcome of story telling and discussion, as well as on analyzing children's reasons for prosocial actions.

The treatment implemented in the present study was based on symbolic modeling and mainly on empathy induction.

Social learning theory emphasizes observational learning which feeds on live or symbolic models (e.g., Bandura, 1971; Friedrich & Stein, 1973; Strafkin, Liebert & Poulos, 1975). To our knowledge the present study is the first to provide symbolic prosocial models via story telling. These models were conveyed in two separate ways. On the one hand, children heard the verbal account of a hero's repeated prosocial

actions. On the other hand, children saw pictures illustrating the story. These illustrations were supposed to enhance the modeling effect created by story telling.

The main treatment component however was empathy induction. Following Piaget (1932, 1973), Hofman (1970) defines inductive childrearing techniques as "techniques in which the parent gives explanations of reasons for requiring the child to change his behaviour, specially by ... explaining the nature of the consequences of the child's actions, by pointing out the relevant needs or desires of others or by explaining the motives underlying the other person's behaviour toward the child".

While several studies have been successful in finding correlations between parents' empathy inducing techniques and children's moral development (e.g., Hoffman & Saltzstein, in Hoffman, 1970; Hoffman, 1975), results are less clear-cut with respect to studies which manipulated induction. It appears from Staub's (1971), Sims' (1978, in Staub, 1979, pp. 168-169) and Ianotti's (1978) experiments that induction seems to be effective in experimental settings if the child is not only listening to inductive techniques implemented by the experimenter, which might be labeled "passive" empathy induction, but also has an active role either in roleplay (Ianotti, 1978; Staub, 1971) or in self-induction (Sims, 1978). In the experiment to be presented, stories were constructed using verbal and pictorial symbolic modeling and "passive" empathy induction made up of

the reasons for the hero's prosocial actions. Discussions were led using "active" empathy induction. Children were asked to be active in taking the role of the main and secondary characters, to be attentive to the former and the latter's feelings and to point to the consequences of the characters' actions. They were also asked to actively relate the content of the story they had heard and discussed to their own everyday actions.

In the intervention studies which have been reviewed, the dependent variables are operationalisations of the construct of prosocial behaviour which includes a wide variety of behaviours including "generosity, altruism, sympathy, helping people in distress by giving material or psychological assistance, sharing possessions, donating to charity and participating in activities designed to improve the general welfare" (Mussen & Eisenberg-Berg, 1977; see also Bryan, 1975; Rushton, 1981).Where giving is concerned, for example, most researchers have implemented situations in which the child is given several objects by the experimenter : candy, raisins, or toys (see e.g., Ianotti, 1978; Rutherford & Mussen, 1968; Staub, 1971) and told that these objects belong to him. The child is then told about poor children and given the opportunity to give some of his newly acquired possessions to these needy children. The number of objects given is considered as an operational indicator of the child's prosocial behaviour.

One of the purposes of the present experiment was to assess the influence of prosocial symbolic modeling and of

empathy inducing discussions in the classroom setting on children's giving and helping behaviour. Giving was measured in the traditional way by the number of objects given and by two weighted indexes of generosity; helping was measured by a procedure inspired by Staub (1971). The main prediction was that children in the experimental group would score higher than those in the control group because they would imitate the prosocial behaviour of the main story characters. Passive and active induction techniques would also make them sensitive to the needs of others. It was also expected that children's prosocial behaviour would increase with age. Finally it was hypothesized that boys would score higher for giving since giving is considered instrumental behaviour, sex-typed for boys; girls would score higher for helping since helping is nurturant behaviour, sex-typed for girls (e.g., Bryan, 1975; Krebs, 1970; Mussen & Eisenberg-Berg, 1977).

In contrast to prosocial behaviour, altruism is defined as "a moral act that aims to benefit others, that is performed voluntarily, and that functions as an end in itself with no expectation of external rewards" (Bar-Tal et al., 1980). It appears from this definition that it is crucial to assess the actor's intent if helping and giving are to be considered as moral. Rest (1983) also stresses that behaviour can only be called moral if we know both the observable behaviour and the process giving rise to it. Research in which these processes

have not been assessed is merely to be considered as research on "giving behaviour", "helping behaviour", "prosocial behaviour", but not as "moral" behaviour.

The present experiment attempts to go beyond the behavioural variables and to tap the processes underlying prosocial action. It does so both (1) indirectly, by devising weighted indexes of generosity which take the giver's intentions into account and (2) directly, by asking the children to give justifications for their prosocial action.

Where (1) is concerned, two weighted indexes of generosity are designed. They take into account the giver's intention and are considered to be more valid measures than the more global number of objects given. The computation of two weighted indexes of generosity and the concept of the number of objects given is done from the child's action in one and the same experimental situation. The weighted indexes however take into account more information than the number of objects given. The information considered for each of the weighted indexes of generosity is transformed according to a different rationale for each index. Since the weighted indexes of generosity take into account the giver's intentions, whereas the number of objects given does not, the indexes of generosity on the one hand, and the number of objects given on the other, are considered to rely on two different constructs. They are also expected to be more discriminating variables for assessing treatment outcomes. This prediction was verified in

the previous experiment (Vandenplas-Holper, Crivisqui-Linares & De Ketele, 1987). . Where (2) is concerned, the present experiment directly considers the children's reasons for giving and helping. This assessment of the children's motives is akin to earlier research by Eisenberg-Berg and Neal (1979) and by Eisenberg-Berg and Roth (1980).

In a longitudinal study, Eisenberg-Berg and Roth (1980) assessed pre-school children's moral reasoning from stories. They found that hedonistic reasoning decreased significantly with age and that needs-oriented and approval-oriented reasoning increased. Rest (1983) stresses the fact that Eisenberg-Berg's categories (see also Eisenberg-Berg & Neal, 1979) are based on empirical age trends, not on the basis of a logical analysis of the underlying constructive processes. Eisenberg-Berg does not present a description of the inner constructive process by which the responses are generated. She fails to show, as is usual for developmental-structural analyses done in the Piaget-Kohlberg tradition, how one category is developmentally more or less advanced than another and how the "more advanced" types evolve from the less advanced ones. To a lesser degree, the criticism could be addressed to Bar-Tal et al.'s (1980) research.

In an experiment studying both behavioural action and children's justifications for action, Bar-Tal, Raviv and Leiser (1980) present several stages of altruistic behaviour (see also Bar-Tal, Raviv & Shavit, 1981; Sharabany & Bar-Tal, 1982). Although the developmental

sequence is better documented in Bar-Tal's research than in Eisenberg's, Bar-Tal also fails to give a description of the inner constructive process by which the responses are generated.

With respect to the motives underlying prosocial actions, our study had three interrelated aims.

a.) Our study tries to present a more detailed developmental pattern of reasons underlying prosocial action than the previous research of Bar-Tal and Eisenberg. This pattern based on the assumptions of cognitive-developmental theory (Kohlberg, 1976) moves from self-centered reasons to norm-oriented and finally other-oriented reasons. We expect 7-year olds to give more elaborate reasons than 5-year olds.

b.) The question arises as to whether the pattern of prosocial moral reasoning is a general one or whether it is specific to the giving and helping situation. In a previously study (Eisenberg & Hand, 1979), consistency in the use of reasoning across different dilemmas was moderate to absent. The consistency problem seems not to have been analyzed in other studies (Rest, 1983, p. 607).

c.) For both giving and helping, the study tests the relation between the behavioural variables and the motives for which the children said they had given or helped. Since the experimental posttest situations which were presented to the children mobilize their consideration for the others' needs, it was thus expected that prosocial moral reasoning would be correlated with the behavioural measures of helping and giving : the other needs-oriented children would behave more prosocially than the self-centered ones. This hypothesis however has to be considered with caution, since results of previous studies (e.g. Eisenberg, 1982; Sharabany & Bar-Tal, 1983) have been contradictory with respect to relations of reasoning and action.

d.) All the intervention studies previously reviewed (see also Rest, 1983) focus on behavioural variables. On the other hand, studies concerned with the development of reasoning, underlying prosocial action, are descriptions of developmental sequences, without being intervention studies. Krogh's (1985) study seems to be the only one whose dependent variables - social moral reasoning levels related to positive justice (Damon, 1977) and perspective taking levels (Selman, 1979) - are made up of reasoning variables, and not by behavioural variables. First- to third-grade children took part in 30 to 40 minute-intervention sessions which consisted in role-play and structured discussions. In the latter, the children had to suggest various possible endings for open-ended stories. In comparison with a control group, the social moral reasoning level

and perspective taking level increased significantly between the pre- and posttest. The age range of Krogh's subjects is more or less identical to ours and the dependent variables of her intervention study are cognitive developmental. As far as we know, the present study is the only one which uses cognitive developmental variables referring to prosocial development in an intervention study. Though the intervention is a short-term one, it was hypothesized, analogously as in short-term intervention studies on cognitive development (e.g. Doise & Mugny, 1981), that children in the experimental group who had heard and discussed the stories with prosocial content would reason according to higher levels than those in the control group who had heard and discussed stories with no prosocial content. As the children were of two age levels, the confrontation of different moral reasoning levels would induce those of the experimental group to restructure their current reasoning at higher levels (Turiel, 1973).

Method

Subjects

Sixty-one middle-class French-speaking boys and girls, aged 5 and 7, took part in the study. The subjects were selected at random and assigned at random to an experimental or a control group. This design, without pretest, was supposed to eliminate the biasses of pre-/posttest designs. Giving and helping measures were presented to the subjects in a counterbalanced way. Table 1 presents the number of subjects according to their conditions, age, sex and posttest order for giving and helping measures.

INSERT TABLE 1 ABOUT HERE

Some children were pupils at a school in a village of about 7,000 inhabitants and the rest at a school located in a residential part of Brussels. Both schools practised innovatory curricula which stressed socio-emotional development more than traditional curricula usually do. In each school, the treatment was implemented by one female teacher who had been familiarized with the aim of the research.

We familiarized the teachers with the story telling and discussion techniques by giving them the two story books and the written material providing the guidelines for discussion. Comments were made on the structure of the two stories and justifications were given for the different phases of the discussion. Teachers were invited to respect the main elements of the stories' structure and the discussion and to be attentive to each individual child's reactions and statements, but to avoid digressions from the story to be told and discussed. Since story telling and free discussions on every day problems were a constituent part of the curriculum, teachers had favorable reactions to the study. The teacher who implemented the treatment was in charge of the 5-year olds class, but also involved the children in mixed age group activities.

Procedure

The children in the experimental group were told two stories with a prosocial content ; one on giving and one on helping ; those in the control group were told two stories without prosocial content. As mixed age groups are integral parts of innovatory curricula, stories were told and discussed in groups of 10 children: four 5-year-old children, four 7-year-old children and two 6-year-old children. The latter were not included in the assessment procedures.

One story was told the first day, and a second story told the following day. Each story was discussed by the ten children. The stories and the discussion were structured so as to have the same narration and discussion time for each of the stories - 20 minutes. After the second story had been told and discussed, children were individually given behavioural measures of prosocial development ; one measured giving, the other helping. The behavioural measures were given by a male experimenter and a male assistant. Both had no idea whether the children belonged to the experimental group or the control group. A female experimenter then asked children the reasons for their giving and helping behaviour.

The stories

The story about giving was slightly adapted from the commercial book "Le cadeau du petit prince" (The gift of the little prince) (Van Bilsen & Wilkeshuis, 1977). We used the version published by Hatier in the experiment. The story about helping was substantially

modified from Löfgren's (1979) "Albin lends a hand". The structure of the story was matched to that of the "cadeau du petit prince". Illustrations were somewhat modified from Löfgren's book and integrated into a booklet which was made up specifically for the research.

In general both prosocial stories had the same structure : a short prologue presenting a male child, the main character, three episodes in each of which he meets a secondary character and acts prosocially with him or her, and an epilogue in which the main character's actions are approved as morally right. Each episode depicts the need situation and the feelings of the secondary adult and child characters who are ill, old and lonely, poor, tired, incompetent in tasks which they have to perform ... For each episode, the story also stresses the consequences of the hero's prosocial action for the secondary character, the latter's feelings of relief as well as the hero's self-rewarding feelings.

The specific content of the giving story can be summarized in the following way. The little prince lives in a marvellous castle. One day, his father notices a new star announcing the birth of the Prince of Peace. The father chooses a present and starts out with friends to greet the prince of peace. The little prince wants to do the same. He chooses presents he likes best: a beautiful red ball, a nicely illustrated picture book which he got from his grandmother. His dog, which he likes very much

accompanies him. The little prince walks through strange forests. He meets a poor girl who is crying ; he offers her his ball. The little prince then meets an old, lonesome man ; he offers him his book. He then meets a sick boy and leaves him his dog. Empty-handed, he meets the prince of peace and the latter's mother. She tells the little prince that he himself is the most beautiful present.

The specific content of the helping story can be summarized in the following way.

Albin is busy watching his favorite TV program. His mother asks him to carry out the garbage. The garbage man is tired and not able to empty the garbage box. Albin helps him to do so and then goes to meet his friends to play football. He meets an old man, unable to cope with the busy traffic. Albin helps him to cross the street. He finally meets a boy who is crying because he is unable to do his homework. Albin helps him to do so. Arriving at the football ground, Albin notices that his friends have already gone. He returns home and tells his mother what he has done during the afternoon. His mother says he was right in doing what he did.

Since the children who took part in this experiment were boys and girls and since many developmental studies (e.g. Chombart de Lauwe & Bellan, 1979; Maccoby & Jacklin, 1973) have shown that, due to the differential status of men and women in our society, girls identify with male characters and/or value male activities,

but boys do not identify with female characters and/or value female activities, the hero of both prosocial stories was chosen to be a male. The main characters of the prosocial stories also presented several characteristics which, according to social learning theory, are known to facilitate imitation (e.g. Bandura, 1971; Vandenplas-Holper, 1987): they were depicted as having the same age as the children ; they were nurturant, clever and brave. Each story ended with vicarious reinforcement of the prosocial actions performed. Social reinforcers were given to each of the heroes by a female character.

The two control stories were of informative content. Both stories focused on facts, not on feelings and interpersonal relations.

The experimental group heard and discussed one story the first day, the other story the second day. The order of giving and helping stories was counterbalanced.

With both the experimental and the control group, the teacher told the stories in a natural way, showing the children the pictures in the books. Zinser and Lydatt (1976, in Eisenberg & Pasternak, 1983, p. 197) found that young children were more likely to donate to a recipient whose plight was presented pictorially as well as verbally than to a recipient whose need was presented only visually or only verbally.

The discussion

After the stories, the teacher led a semi-structured discussion to make the children sensitive to both the hero's feelings and the secondary characters' feelings. She also involved them in hypothetical role-taking and role-reversals and had them generalize the story content to their everyday life. The children were asked what they remembered of the story, what they would do and feel if they were the main characters, what would have been the consequences of their actions, if they themselves behaved prosocially. After the second story had been discussed by the experimental group, the teacher also asked what the similarities between the two stories were and why.

The control groups' stories were followed by questions, without any reference to feelings and motives. Children were asked to remember the stories and to relate them to their personal experience of rivers and farms.

Dependent variables

Unweighted and weighted behavioural measures

After discussion of the second story, the dependent variables: giving and helping, were introduced : their order was counterbalanced across children. The children were shown twelve small toys and allowed to choose eigth of them. They were asked to choose a toy they liked best first, and from the rest to choose in order of

preference. The experimenter's assistant was presented to the children as "a man who had to finish his work". He noted the order of the children's preferences. The children were then shown photos of poor Third-World children and told they could give some of their toys to needy children. They also had the opportunity to help the experimenter when he "accidentally" spilled the contents of his briefcase on the floor and pretended that his back ached a lot. If the child had not helped after 10 seconds, the experimenter asked him/her to do so.

Helping

Helping was classified as spontaneous helping (Score 3) requested helping (Score 2) and refusal to help (Score 1).

Giving

The number of objects given (NOG), ranging from 0 to 8, was one of the dependent variables. It presupposes that a child who has given seven toys, for example, is more generous than a child who has given only one. This assumption may however be questionable. One child may give away seven objects because he or she does not like them, but another child may give away just the one object he or she likes most. In order to take into account the child's intent when giving, two weighted indexes of generosity (WIGS) were also computed. They were based on children's preferences when choosing the toys and they assumed that the children who

gave away the toys they liked most were more generous than those who gave away the toys they liked least. The first toy chosen was given a value of 8, the second a value of 7, ... and the last toy chosen a value of 1. The equally weighted index of generosity (EWIG) divides the sum of the values of the objects which have been given by the sum of the values of all the objects which can be given. The denominator of this index is equal for all children, i.e. : 36 for n = 8 objects. The differentially weighted index of generosity (DWIG) divides the sum of the values of the objects which have been given by the sum of the values which have been given assuming they were those with the highest choice values. The denominator is different for each child. The DWIG presupposes that the child who gives his/her most valued objects, for example, is the most generous while the EWIG weights the same child's giving by lower scores. Each of the WIGS ranges from 0 to 1. The computation of the three giving measures is illustrated elsewhere (Vandenplas-Holper, Crivisqui-Linares & De Ketele, in press).

The method of computing the two WIGS presupposes that the children remember their preferences for the toys when giving them to the needy children. Data gathered during the pilot study showed that the children did in fact remember.

Test-retest reliability assessed by Bravais-Pearson's coefficient computed on another sample of 35 children within a period of one week was r = .773 for NOG, r = .68 for EWIG, and r = .43 for DWIG. All three significant at $p < .005$ for one-tailed tests.

Prosocial moral reasoning

The reasons children gave for having given or helped were coded into the following categories of prosocial moral reasoning (PMR) :

1) reference to self in a hedonistic perspective : "I didn't give the toys because I want them for myself" ; "I gave the toys because I have plenty at home" ; "I like to look after pencils".

More elaborate responses refer to prosocial, other-oriented acts which remain grounded in the pleasure the self finds in them : "I like to give" ; "I wanted to help".

2) compliance with a personalized authority : "he asked me to give" ; "he said that I could help him".

3) reference to general stereotypes or imperatives : "it is nice to give" ; "it is polite to help" ; "you must give" ; "we have to help".

4) other-oriented perspective connected to self by nurturant relations : "they are my friends" ; "he is nice".

5) other-needs-oriented perspective in which the other's needs are merely paraphrased : "they have no toys" ; "his back ached".

6) other-needs-oriented perspective in which

(a) the child anticipates the consequence of prosocial action or of the absence of it : "When they have received the toys, they can have fun with their friends" ; "I helped him because I thought that he would bend down and get hurt".

(b) the child connects the other's perspective with his or her own, stressing his or her privileged situation which he or she contrasts with the other's distress : "I have plenty of toys and they have none which is not much fun" ; "they are poor and we have too much".

These categories correspond to a developmental sequence from a self-oriented perspective to a norm-oriented perspective and finally to an other-oriented perspective. They correspond to a finer description of this developmental sequence than the categories defined by Eisenberg-Berg (Eisenberg-Berg & Neal, 1979; Eisenberg-Berg & Roth, 1980). The internal coherence of the underlying constructive processes of prosocial moral reasoning is further detailed in the discussion section.

Two independent coders coded all the reasons offered for giving and helping by all the children. Intercoder reliability assessed by Cohen's "coefficient of agreement for nominal scales" was $K = .87$ for the reasons for helping and $K = .97$ for the reasons for giving.

Each of the children was given a prosocial moral reasoning score, corresponding to his/her highest level of development. A score of 1 was given for self-centered hedonistic reasons, a score of 2 for reference to personal authority, ... and score of 6 for anticipating the consequences or for connecting the other's perspective with the subject's own perspective. A 0 score was given when the children's statements matched none of the previously described levels.

Results

Behavioural assessment

Since the order of the stories did not affect the results, four-way ANOVAS Age x Sex x Treatment x Order of assessment (helping-giving and giving-helping) were computed for NOG, DWIG, EWIG and helping.

No significant main effect and no significant interactions were found for NOG and for EWIG. DWIG showed a significant Age x Treatment interaction : $F(1,45) = 4.255$, $p = .044$. The Age x Treatment interaction for helping was also significant : $F(1,45) = 5.253$, $p = .026$.

INSERT FIGURE 1 ABOUT HERE

For both variables, scores fall into the same pattern.

a) 7-year-old children in the experimental group score higher than 7-year-old children in the control group.

b) In the experimental group, 7-year-old children score significantly higher than 5-year-old children, while in the control group 7-year-old

children score significantly lower than 5-year-old children.

It further appears that with 5-year olds, there is no difference between experimental and control groups where helping is concerned, whereas with DWIG, children in the control group score higher than those in the experimental group.

Prosocial moral reasoning

Prosocial moral reasoning differed neither between experimental and control groups nor between boys and girls. Prosocial moral reasoning elicited for helping did not differ between 5- and 7-year olds. However, significantly more 7-year olds gave other-oriented reasons (levels 4, 5 and 6) for giving : $\chi^2(1, N=61) = 6.01$; $p < .02$.

Some other differences emerged between children's reasons for giving and helping. The reason "contrasting of self's privileged position with other's distress" was used for the giving situation with reference to the needy children, but not for the helping situation with reference to the adult experimenter's aching back. We also found that 39 % of the children referred to the experimenter's explicit request to help whereas only 2 % of the children referred to the experimenter's explicit request to give to poor children. The constrasting of self's and other's perspective was referred to in the context of the giving situation, but not in the context of the helping situation.

Correlations between behavioural assessment and prosocial moral moral reasoning (PMR)

Tau correlations computed between each of the behavioural variables and each of the prosocial moral reasoning variables are presented in Table 2.

INSERT TABLE 2 ABOUT HERE

While the three giving measures are highly intercorrelated, none of them is correlated with the behavioural helping variable. Prosocial moral reasoning elicited for giving, but not for helping is correlated with each of the behavioural giving measures. The correlation between PMR elicited for helping and the behavioural measurement of helping is low. The correlation between PMR elicited for helping and giving is lower still.

For a closer inspection of the relation between PMR elicited for helping and the behavioural helping measure, hedonistic, norm-oriented and other-oriented paraphrased reasons were regarded as least advanced. On the other hand, reasons regarded as most advanced were those based on nurturant relations with the experimenter and on anticipation of the children's helping the experimenter. With respect to the helping situation, 38.5 % of the children who had helped spontaneously gave the most advanced reasons whereas only 5.7 % of those who had not spontaneously helped did so. These differences were highly significant :

$\chi^2(1, N = 61) = 10.19, p < .005$

Discussion and educational implications

1. The main hypothesis of the present experiment as to behavioural measures of treatment outcomes was confirmed, though only for the 7-year-old children : those who took part in prosocial story telling and discussing sessions had significantly higher helping and DWIG scores than children who did not take part in these sessions.

This general statement has to be qualified.

a) For the 7-year olds, DWIG, one of the weighted indexes of generosity, thus proved to be a more discriminative measure of children's generosity than the traditionnally used number of objects given. However, contrary to our predictions, results for the experimental and control groups were not significantly different for EWIG which probably taps the underlying giving intentions at less deep a level.

The interaction Age x Treatment for EWIG and helping can be interpreted in the following way.

b) The 7-year olds in the experimental group score higher than the 7-year olds in the control group. The 7-year olds in the experimental group are sensitive to the treatment components : they are attentive to the distress cues of the secondary characters presented in the stories; in discussion they are capable of taking the hero's role and that of the secondary characters and they are able to generalize the stories to the posttest situation. These treatment components have not been presented to the control group.

c) The fact that 7-year-old children but not 5-year olds in the experimental groups benefited by the treatment might be explained by the fact that 5-year-old children do not yet have the cognitive abilities necessary to attend to the story content and to perform the role-taking and the generalization requested by the discussion. Alternative interpretations are possible. In the earlier experiment (Vandenplas-Holper, Crivisqui-Linares, Leyens & Ghysselinckx-Janssen, 1987) in which stories were told by an unknown experimenter to groups of only 4 children, the 5-year olds in the experimental group scored higher on the giving measures than the 5-year olds in the control group. It might be that in the present experiment, for the 5-year olds, the teacher's prosocial story telling and discussing was - unlike the case with 7-year olds - an event which had no particular status with reference to their usual classroom activities, or that the particular setting of groups of 10 children was not suitable for mobilizing their cognitive capacities. Aspects of the teacher's training are discussed further in this section. It is however impossible to confirm or disconfirm one or other of the interpretations referring to the influence of the different treatment components since the treatment which has been implemented is a global one which does not isolate the influence of the stories' verbal account, the pictures and the various elements of the discussion. An ongoing experiment does so by comparing experimental groups who listened to prosocial stories and discussed them with control groups who listened to the same stories and then performed a filler activity.

d) The fact that where EWIG and helping are concerned, the 7-year-old children in the control group score lower than the 5-year-old children in the control group, might be explained in the following way. Since no feelings were presented in the control stories and since no feelings were induced in the discussion or feelings were even discarded in order to guarantee the internal validity of the design, the 7-year-old children may have learned to disregard their feelings induced by the posttest situation. 5-year-old children might not have been able to perform this generalization.
e) The fact that where EWIG was concerned, the 5-year olds in the experimental group scored lower than 5-year olds in the control group is puzzling and has to be attributed to chance.

There is no correlation between giving and helping measures. This result is consistent with other studies (e.g. Rushton, 1981) which found that, although giving and helping may be considered to belong to the same construct of prosocial behaviour, children's performances are situation-specific.

We found no differences between sexes in the present study. It is true that previous studies did not always find differences between sexes (e.g. Krebs, 1970). It might also be hypothesized that "sex-role fair" child rearing techniques used in the innovatory curricula do not bring about differential socialization effects for boys and girls.

2. The following comments refer to the levels of prosocial moral reasoning.

2.1. The underlying constructive processes of prosocial moral reasoning can be conceptualized as follows :

At a first stage, the subject is centered only on his/her own perspective. He/she refuses to act prosocially or justifies his/her prosocial actions with self-related reasons.

At a second stage, the subject's actions are norm-oriented. The norm is first represented by a specific person, then becomes more generally stereotyped.

At a third stage, the subject's actions are other-oriented. This stage is prepared by the other being viewed in a close, affectionate relationship with the self. The other then begins to acquire his/her own existence. The reference to his/her needs however is still limited. In the context of the experiment described here, the subject gives personal paraphrases of the story content. Finally the subject views the other's perspective in its own right. He/she refers to the other's needs in his/her own words and anticipates the consequences of his/her prosocial action.

Ongoing research tries to document these stages more thoroughly. Two questions in particular have to be answered :

(a) Are other-oriented acts, which remain grounded in the pleasure the self derives from them, to be regarded as referring to a hedonistic perspective or as belonging to a higher stage, in which they are considered as self-rewards, as opposed to external rewards ?

(b) Are references to nurturant relations more elaborate reasons for giving or helping than references to the other's needs which are merely paraphrased ? The first are personal statements ; the second are only paraphrases of the experimenter's statements.

2.2. Where giving, but not helping, is concerned, the level of prosocial moral reasoning increased with age. These findings have to be interpreted with reference to the specificity of reasoning referring to giving and helping.

2.3. Further aspects of specificity arise.

Although it is true that both the helping and giving situations gave rise to the same types of reasons for giving and helping, these reasons are nevertheless heavily determined by situation-specific cues, as is shown by the only very slightly significant correlation between prosocial moral reasoning for helping and giving. Help was to be given to an adult experimenter whereas giving was to be performed for needy children. This difference in the adult/child status of the recipient of prosocial behaviour affected children's reasons for helping and giving. The reason which contrasted self's privileged position with other's distress was used for the giving situation with reference to the needy children but not for the helping situation with reference to the adult experimenter's aching back. The fact that more children referred to the experimenter's explicit request to help than to the experimenter's explicit request to give to poor children also refers to the specificity of the giving and helping situation.

The reason why prosocial moral reasoning correlated more highly with the different measures of giving than with the helping measure, may be explained by a task analysis of the giving and helping situation.

The giving situation can be considered as a problem of justice in which the children have to balance self-gain (that is to say the newly acquired toys) and sacrifice for the needs of others. Unlike the helping situation used in other experiments (e.g. Barnett, Darcie, Holland & Kobasigawa, 1982; Rubin & Schneider, 1973), the helping situation used in the present experiment does not involve a conflict between the subject's and the other's interests. It has to be regarded as appealing essentially to the social conventions governing social interaction with respect to the differential adult-child status (see Turiel, 1977). Since the giving situation balances self's and other's interests and the helping situation does not, it may be plausible that the former is more highly correlated with PMR, which refers to the same balance of self and other.

2.4. Finally, the fact that children in the experimental group did <u>not use developmentally higher reasons</u> for having given or helped may be explained by the fact that the intervention sessions were brief and that the posttest immediately followed the last intervention session. Children in the experimental group might therefore not have had sufficient time to restructure their prosocial moral reasoning. In an ongoing pre-posttest experiment on discussing

prosocial dilemmas, the posttest was carried out one week after the last discussion session in order to give the children time to do this restructuring.

3. The applied implications of the study are diverse. The present experiment was only moderately successful in showing that children's prosocial development can be enhanced by teacher implemented story telling and discussion, perhaps because the teacher lacked the skills required to lead a moral development discussion.

It might be hypothesized that although teachers were familiarized with story telling and discussing within the framework of the innovative curricula they practised, the training they had received before the experiment was insufficient. Indeed, the teachers had had no opportunity to practise the story telling and discussion procedures before they had to use them in the study and then received no feedback from the researchers. It may well be that the teachers focused the discussion mainly on the verbally more fluent 7-year-old children, neglecting to involve actively the 5-year olds.

3.1. In order to cope with these deficiencies, we have made a two-hour educational video program (Vandenplas-Holper, Crivisqui-Linares, Jates & Chysselinckx, 1986) illustrating the two prosocial story experiments and training teachers to use the story telling and discussing methods efficiently.

The two videocassettes which make up the educational program have been designed for the widest possible public : pupils at teacher training colleges, teachers in service, developmental,

educational and social psychologists, people responsible for organizing socio-cultural activities.

The two videocassettes comprise parts common to both, and parts specific to each one. Each cassette briefly mentions the other's contents ; nevertheless each one is complete in itself and can be viewed separately.

The link between the two cassettes is articulated around the concept of the "guided discovery of observation" : spectators are also asked to discover the constructs which guided the researchers as observational categories for analyzing the storyteller's and the children's actions and interactions.

The technical production uses many devices which are intended to underline the educational nature of the video programs. The recordings, made simultaneously by three different cameras, allow the viewer to analyse at once and at the same time the same situation from the story-teller's point of view and the children's point of view. Different types of subtitles and different colour frames visually display the elements which have just been explained by the commentator : features which allow the listener - viewer to discover, little by little, the many details that only video recordings can reveal and to grasp in a fleeting moment what the researchers have succeeded in showing after much long and careful analysis.

The programs are provided with an integrated time code which facilitates the many partial rewindings required for in-depth educational use.

A 20-30-hour "guided discovery of observation" program (Vandenplas-Holper, in press) based on the cognitive developmental concept of role-taking, has been implemented with first-,third- and fourth-year students of psychology and educational sciences. The program used a combination of the videoprogram and excerpts from the original videorecordings. Three main aspects were dealt with in the program :

a) discovering the similarities and the differences between the two stories from the students' point of view and from the point of view of 5- to 8-year old children;

b) rating the story-teller's responsiveness to the children's reactions ;

c) rating the children's prosocial moral reasoning.

Results were encouraging. a) At the end of the program, interrater agreement on point b) and c) was fairly good. Some students' ratings also correlated fairly well with the researcher's ratings.

b) Whereas for first-year students, the training involved analysing the videoprogram and gradually learning to rate videorecordings, the training for third- and fourth-year students also involved field work. Their story telling performances at the end of the 30-hour training were rated significantly higher than at the beginning of the program.

3.2. Some fifty other story books referring to children's fears, their difficulties in establishing relationships, their perceptions of different social classes and their perception of parents' divorce have been analysed according to the literature in those fields and according to Streibel's (undated) criteria for educational story books

(Gillis, 1986; Matthis, 1986; Walckiers, 1986). Some of these books were discussed with 5- to 11-year-old children along the lines of the discussion scheme used in this experiment. These books will be integrated into an experiment to be carried out with psychology students. The aim of the experiment is to enhance their ability to analyse these books and to rate their respective educational value.

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Table 1

Number of Subjects in each of the Cells of the Experimental Design.

CONDITION	AGE	SEX	POSTTEST ORDER	n
EXPERIMENTAL	5	Boys	H - G	4
			G - H	4
		Girls	H - G	4
			G - H	3
	7	Boys	H - G	4
			G - H	3
		Girls	H - G	4
			G - H	3
CONTROL	5	Boys	H - G	7
			G - H	2
		Girls	H - G	3
			G - H	4
	7	Boys	H - G	6
			G - H	3
		Girls	H - G	4
			G - H	3
TOTAL				61

Note : H = Helping ; G = Giving.

Table 2.

Kendall's Tau Correlations Between Behavioral Variables and Prosocial Moral Reasoning (n = 61).

Variables	2	3	4	5	6
Behavioral					
Giving					
1. NOG	.70***	.66***	.00	.46***	.02
2. EWIG	-	.58***	.01	.36***	.02
3. DWIG		-	.05	.46***	.06
4. Helping			-	.08	.20**
Prosocial Moral Reasoning					
5. PMR Giving				-	.14*
6. PMR Helping					-

* $p < .10$, one-tailed. ** $p = .05$, one-tailed.

*** $p < .001$, one-tailed.

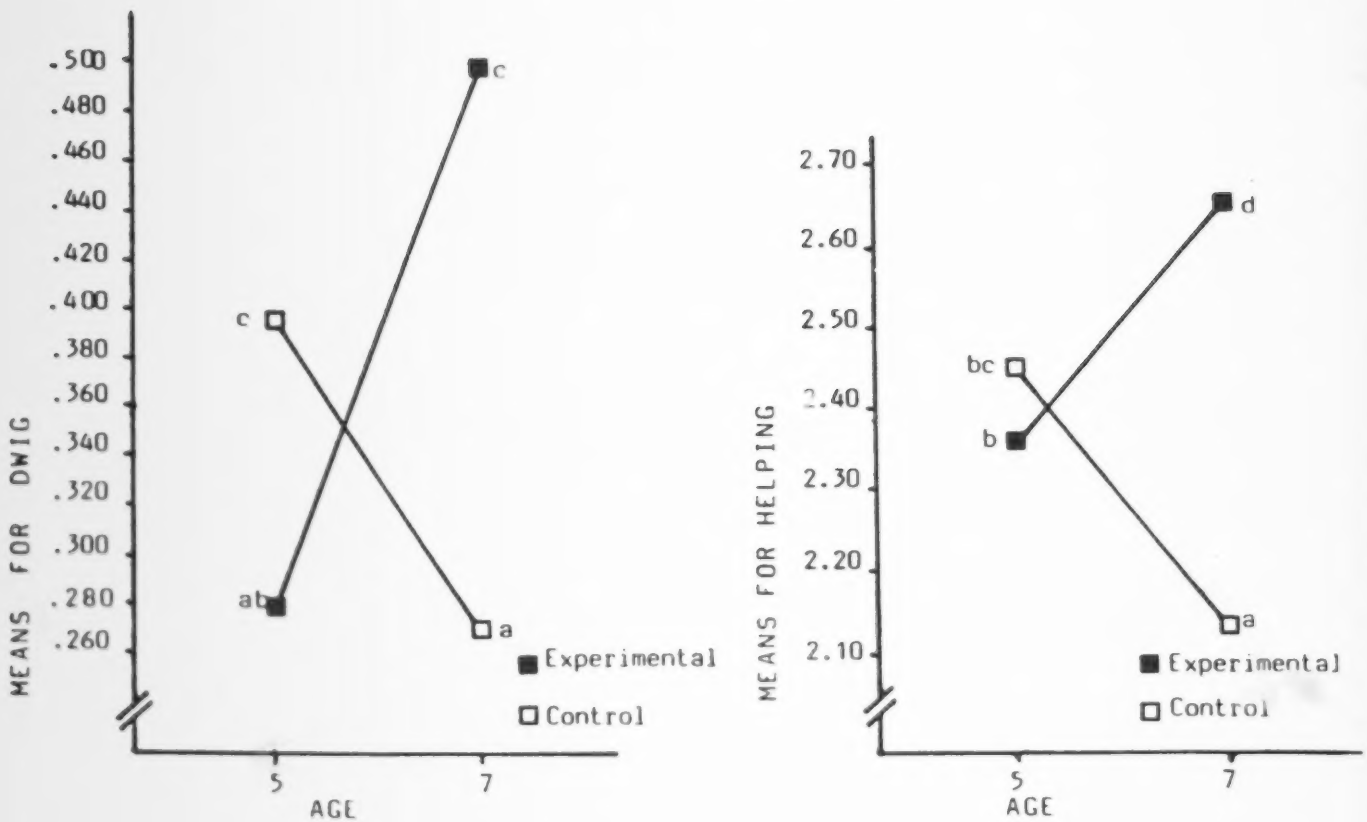

Figure 1. Means for DWIG and helping as a function of age and treatment groups..

Note. Means with different subscripts differ significantly at $p < .05$ by Duncan's multiple-range test.